JP2000-226860

FIG. 1

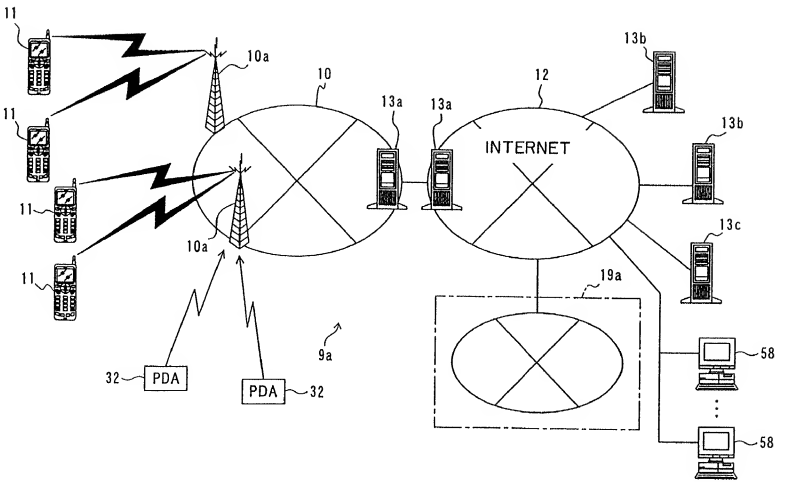

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FIG. 2

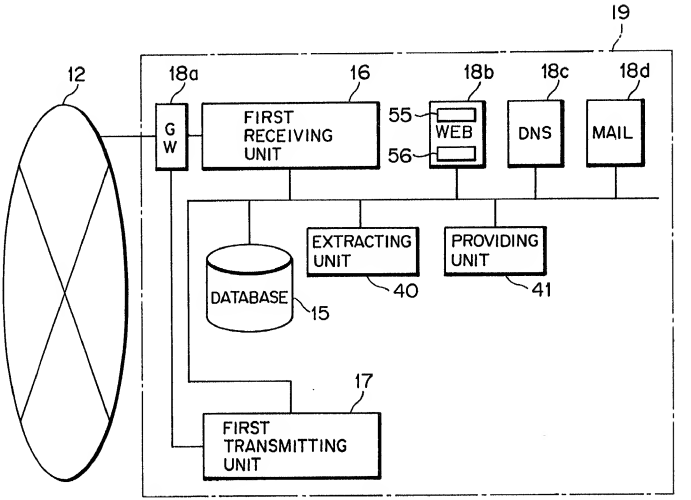

FIG. 3

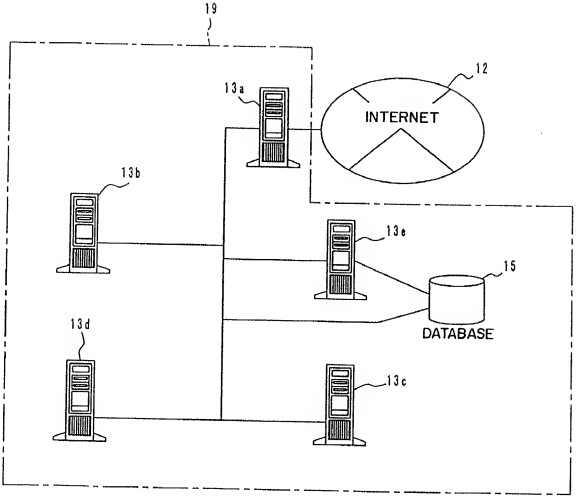

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FIG. 4

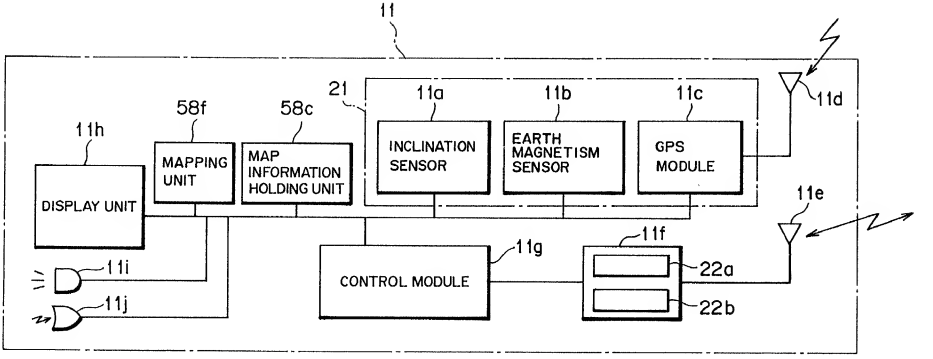

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FIG. 5

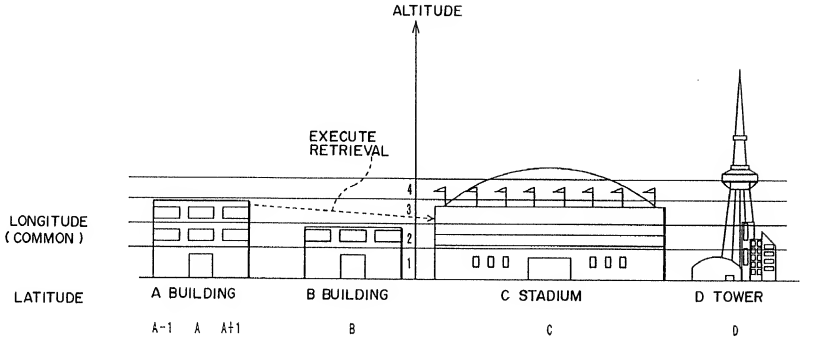

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FIG. 6

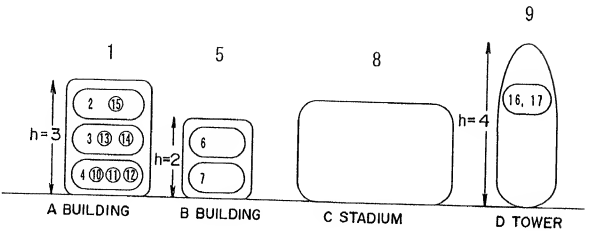

FIG. 7

15(15a)

BUBBLE NUMBER	SPATIAL OCCUPANCY INFORMATION	URL	ATTRIBUTE INFORMATION
1	A/X/0/3	http://www.xxx:100	PUB
2	A/X/3/1	http://www.xxx:101	HOSPITAL (SURGERY)
3	A/X/3/1	http://www.xxx:101	HOSPITAL (INTERNAL)
4	A/X/3/1	http://www.xxx:101	HOSPITAL (STOMACH AND INTESTINAL)
5	A/X/3/1	http://www.xxx:101	HOSPITAL (NOSE AND EAR)
6	A/X/2/1	http://www.xxx:102	HOTEL
7	A/X/1/1	http://www.xxx:103	GASOLINE STATION
8	B/X/0/2	http://www.xxx:200	PREPARATORY SCHOOL (TENTH-GRADE)
9	B/X/0/2	http://www.xxx:200	PREPARATORY SCHOOL (TWELFTH-GRADE)
10	B/X/2/1	http://www.xxx:201	ITALIAN RESTAURANT
11	B/X/1/1	http://www.xxx:202	TAX OFFICE
12	C/X/0/3	http://www.xxx:300	STADIUM
13	D/X/0/4	http://www.xxx:400	RADIO TOWER
14	A-1/X/1/0.5	http://www.xxx:110	RESTAURANT
15	1/X/1/0.5	http://www.xxx:111	STATION
16	A+1/X/1/0.5	http://www.xxx:112	FIREHOUSE
17	A-1/X/2/0.5	http://www.xxx:120	TEMPLE
18	A/X/2/0.5	http://www.xxx:121	ELECTRIC APPLIANCES STORE (PERSONAL COMPUTER)
19	A/X/2/0.5	http://www.xxx:121	ELECTRIC APPLIANCES STORE (CELL PHONE)
20	A/X/2/0.5	http://www.xxx:121	ELECTRIC APPLIANCES STORE (REFRIGERATOR)
21	A/X/3/0.5	http://www.xxx:130	CHINESE RESTAURANT
22	D/X/4/0.5	http://www.xxx:410	ART MUSEUM
23	D/X/4/0.5	http://www.xxx:411	BOOK STORE

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FIG. 8

BUBBLE NUMBER	SPACIAL OCCUPANCY INFORMATION (LATITUDE / LONGITUDE ALTITUDE / BUBBLE DIAMETER)	OBJECT URL	CONTENT NAME
1	149° 22′ 20″ / 62° 11′ 11″ /30/5	http://www.nifty.ne.jp/gps/user/mori/index.html	A BUILDING
2	149° 21′ 15″ / 62° 09′ 04″ /15/20	http://www.nifty.ne.jp/gps/user/yashi/index.html	B RESTAURANT
3	149° 19′ 12″ / 62° 14′ 07″ /50/200	http://www.nifty.ne.jp/gps/com/fujitsu/index.html	C STADIUM
4			

FIG. 9(a)

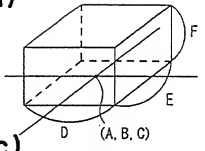

FIG. 9(b)

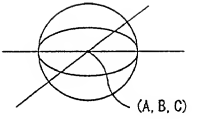

FIG. 9(c)

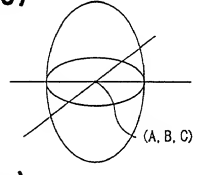

FIG. 9(d)

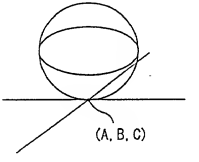

FIG. 9(e)

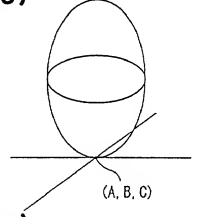

FIG. 9(f)

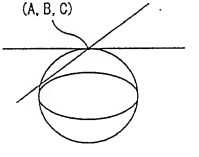

FIG. 9(g)

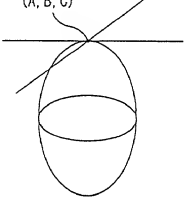

FIG. 9(h)

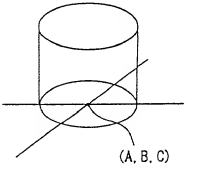

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FIG. 10

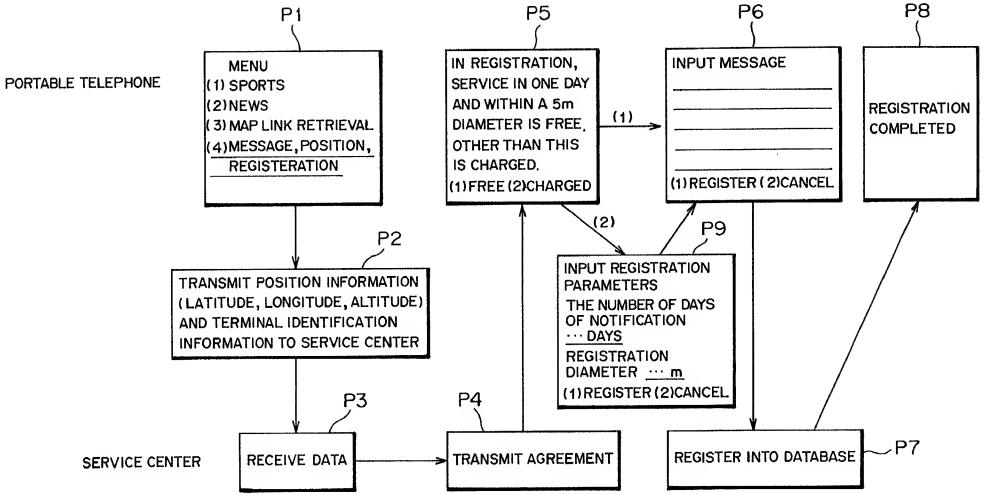

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FIG. 11

BUBBLE DIAMETER	INFORMATION NOTIFICATION TIME (DAY)	CHARGE	NOTE
5	1 DAY 2 WEEKS 3 MONTHS	0YEN 100YEN 1000YEN	PERSNAL USE USE TO COLLECT MEMBERS OF A CIRCLE OR THE LIKE MENU OF ONE-MAN SHOP
20	1 DAY 2 WEEKS	1000YEN 5000YEN	AD. OF BARGAIN SALE ROAD GUIDANCE
50	1 DAY 1 WEEK	2000YEN 10000YEN	FESTIVAL GUIDANCE
100	1 MONTH 6 MONTHS	100000YEN 500000YEN	COMPANY AD. (COMPANY PROFILE)

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FIG. 12

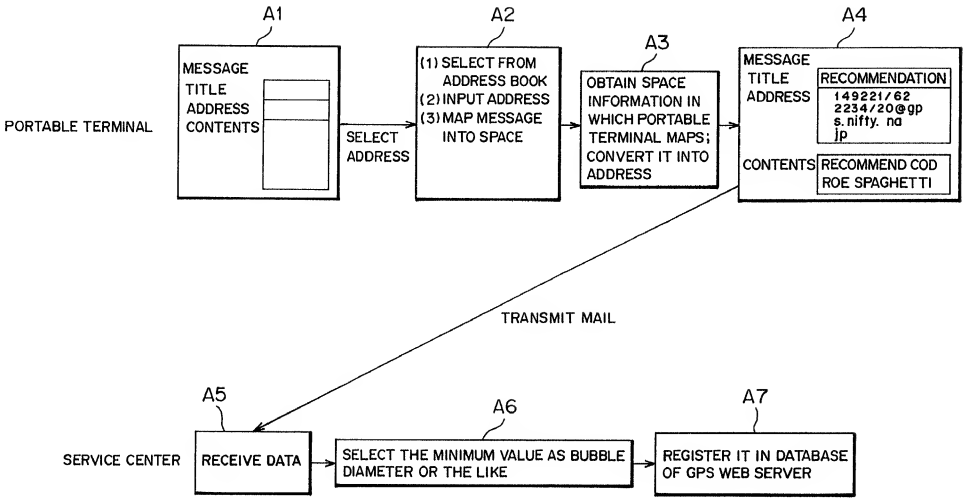

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FIG. 13

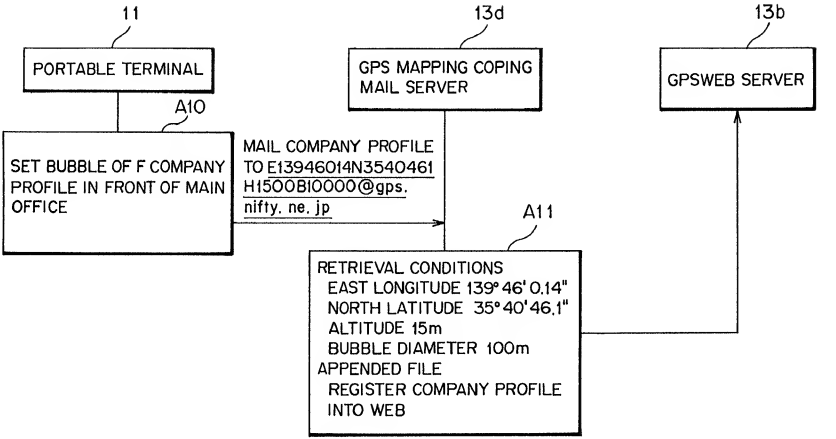

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FIG. 14

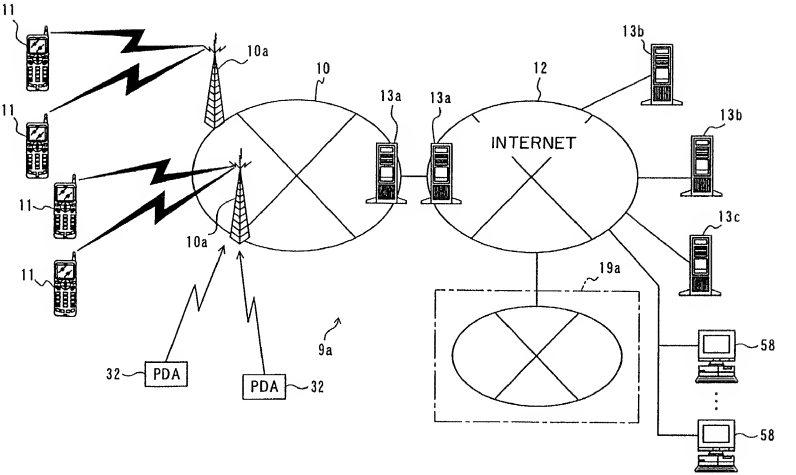

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FIG. 15

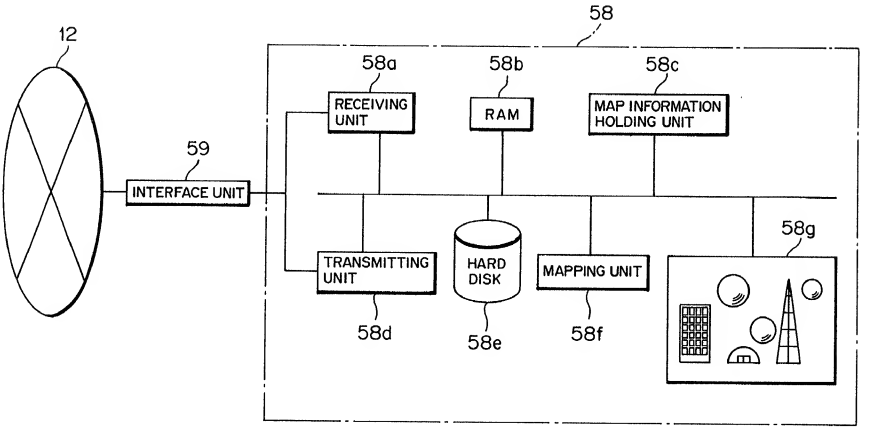

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FIG. 16

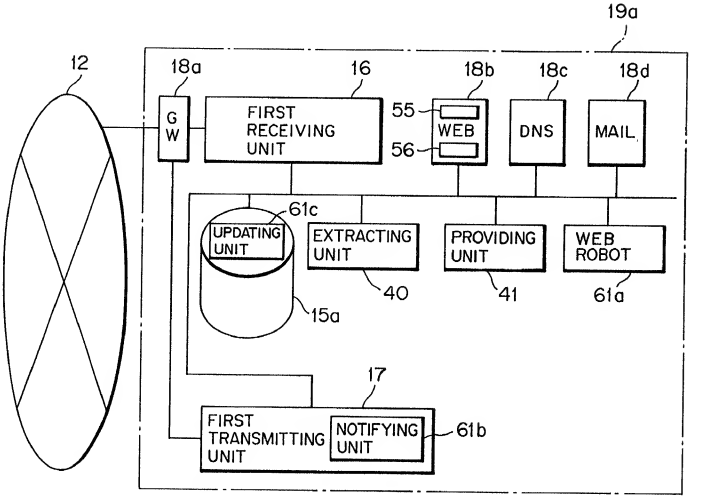

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FIG. 17

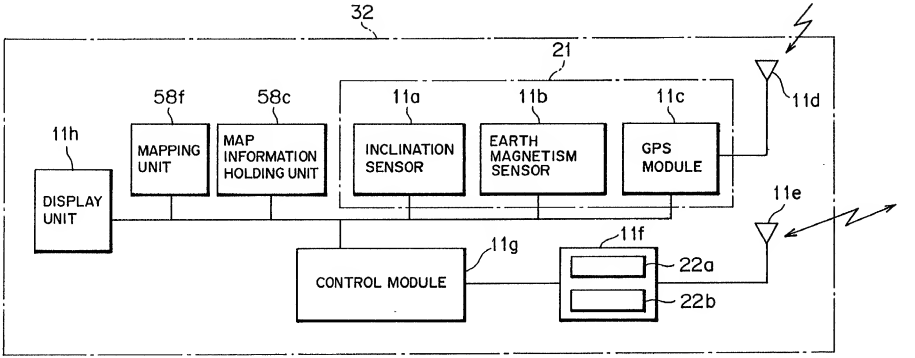

FIG. 18

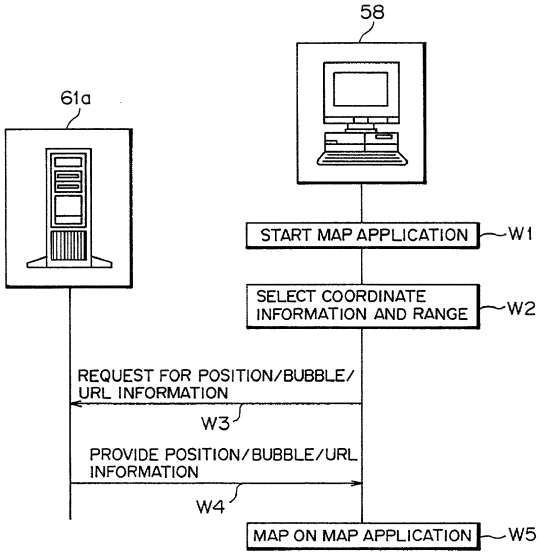
58
61a
START MAP APPLICATION
W1
SELECT COORDINATE INFORMATION AND RANGE
W2
REQUEST FOR POSITION/BUBBLE/URL INFORMATION
W3
PROVIDE POSITION/BUBBLE/URL INFORMATION
W4
MAP ON MAP APPLICATION
W5

FIG. 19

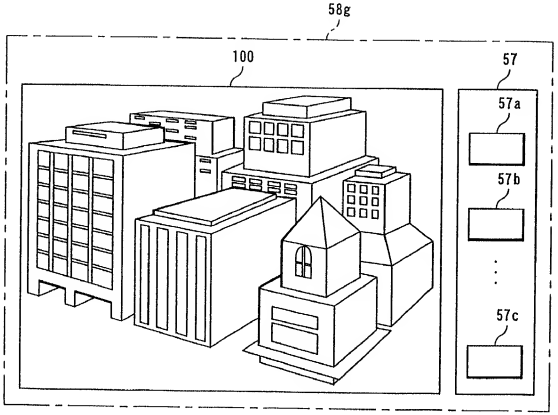

FIG. 20

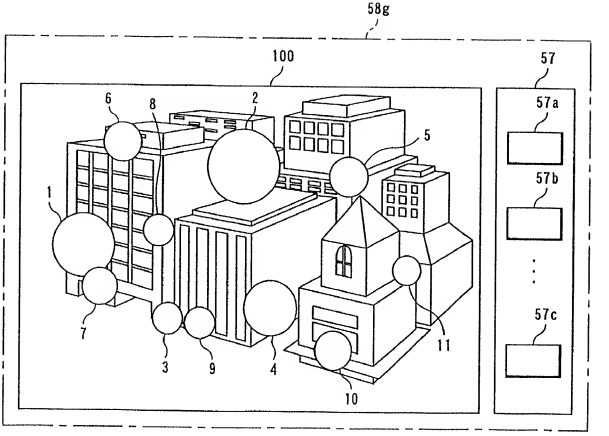

FIG. 21

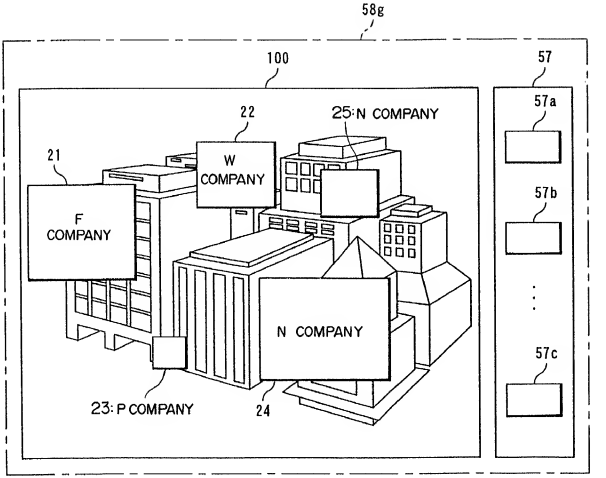
58g
100
57
57a
22
25:N COMPANY
21
W
COMPANY
F
COMPANY
57b
N COMPANY
57c
23:P COMPANY
24

FIG. 22

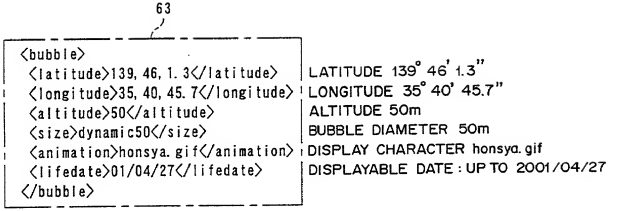

FIG. 23(a)

CHILD ELEMENTS OF DTD INFORMATION
- LATITUDE, LONGITUDE, ALTITUDE
- BUBBLE DIAMETER
- DISPLAY ANIMATION
- ATTRIBUTE INFORMATION
- STARTUP APPLICATION
- STATE FILE NAME
- URL

FIG. 23(b)

STATE FILE
- LIFE COUNTER
- LIFE DATE
- STARTUP FILE NAME
- DYNAMIC BUBBLE DIAMETER
- ACCESS HISTORY

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FIG. 24

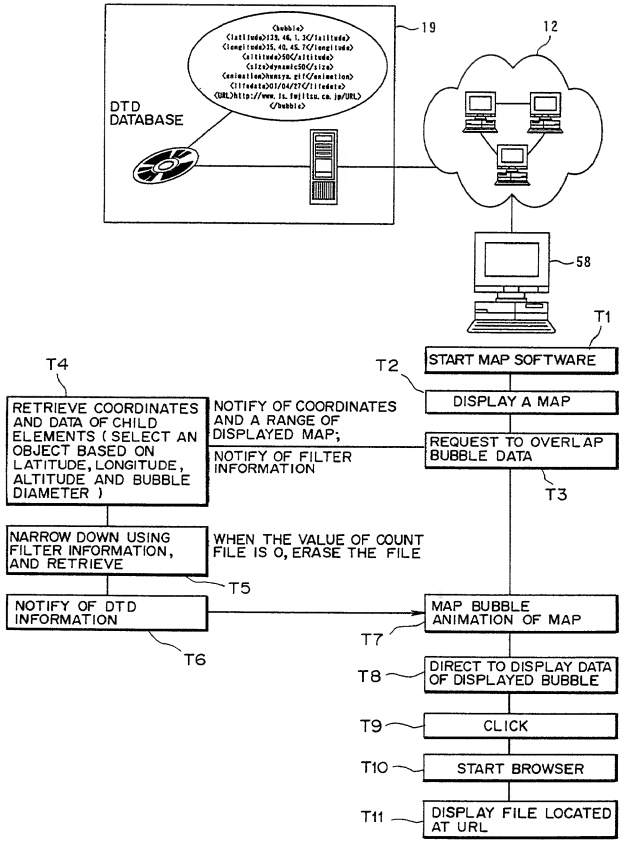
DTD DATABASE
19
12
58
T1
START MAP SOFTWARE
T2
DISPLAY A MAP
REQUEST TO OVERLAP BUBBLE DATA
T3
T4
RETRIEVE COORDINATES AND DATA OF CHILD ELEMENTS (SELECT AN OBJECT BASED ON LATITUDE, LONGITUDE, ALTITUDE AND BUBBLE DIAMETER)
NOTIFY OF COORDINATES AND A RANGE OF DISPLAYED MAP;
NOTIFY OF FILTER INFORMATION
NARROW DOWN USING FILTER INFORMATION, AND RETRIEVE
WHEN THE VALUE OF COUNT FILE IS 0, ERASE THE FILE
T5
NOTIFY OF DTD INFORMATION
T6
MAP BUBBLE ANIMATION OF MAP
T7
T8
DIRECT TO DISPLAY DATA OF DISPLAYED BUBBLE
T9
CLICK
T10
START BROWSER
T11
DISPLAY FILE LOCATED AT URL

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FIG. 25

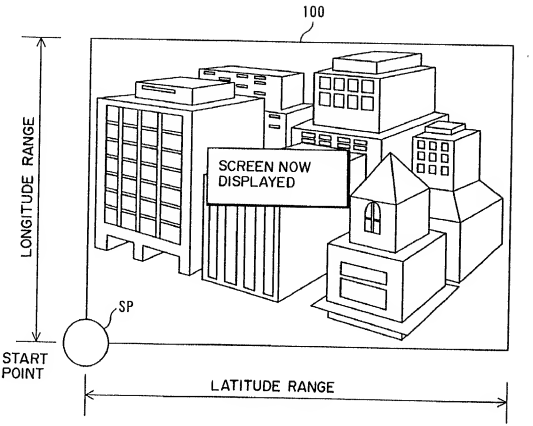

FIG. 26

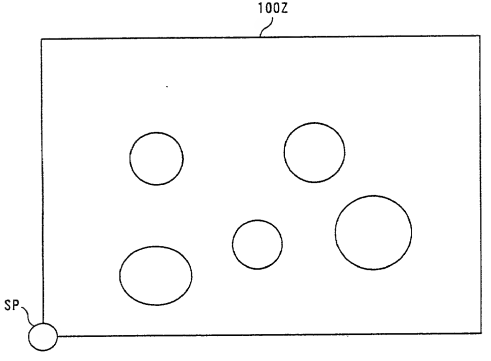

FIG. 27

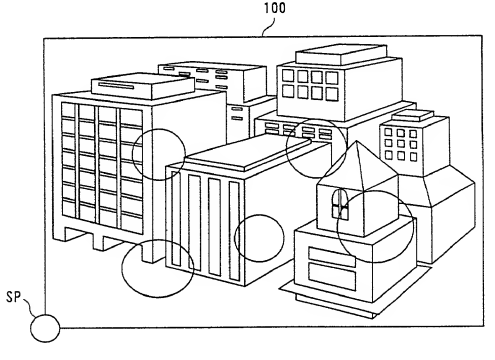

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FIG. 28

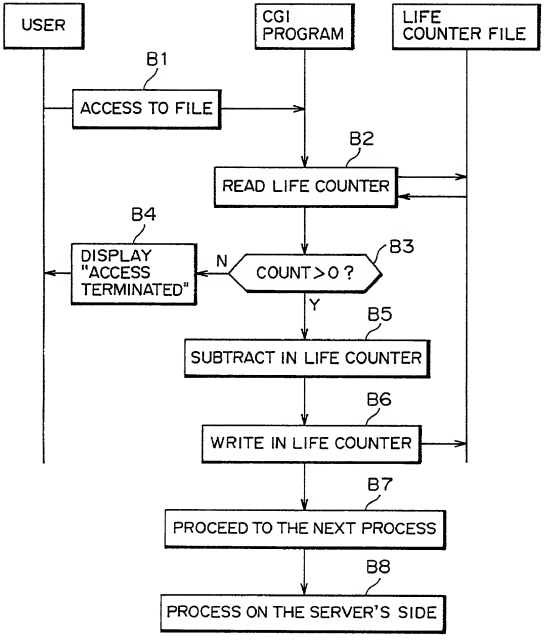
USER
CGI PROGRAM
LIFE COUNTER FILE
B1
ACCESS TO FILE
B2
READ LIFE COUNTER
B4
DISPLAY "ACCESS TERMINATED"
N
B3
COUNT>0 ?
Y
B5
SUBTRACT IN LIFE COUNTER
B6
WRITE IN LIFE COUNTER
B7
PROCEED TO THE NEXT PROCESS
B8
PROCESS ON THE SERVER'S SIDE

FIG. 29

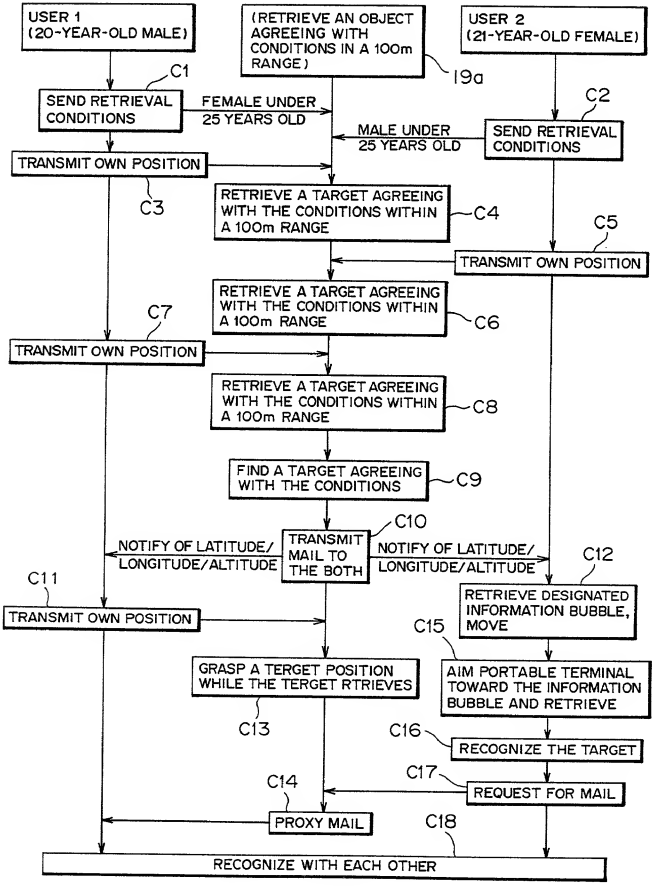
USER 1
(20-YEAR-OLD MALE)
(RETRIEVE AN OBJECT AGREEING WITH CONDITIONS IN A 100m RANGE)
19a
USER 2
(21-YEAR-OLD FEMALE)
C1
SEND RETRIEVAL CONDITIONS
FEMALE UNDER 25 YEARS OLD
MALE UNDER 25 YEARS OLD
C2
SEND RETRIEVAL CONDITIONS
TRANSMIT OWN POSITION
C3
RETRIEVE A TARGET AGREEING WITH THE CONDITIONS WITHIN A 100m RANGE
C4
C5
TRANSMIT OWN POSITION
RETRIEVE A TARGET AGREEING WITH THE CONDITIONS WITHIN A 100m RANGE
C6
C7
TRANSMIT OWN POSITION
RETRIEVE A TARGET AGREEING WITH THE CONDITIONS WITHIN A 100m RANGE
C8
FIND A TARGET AGREEING WITH THE CONDITIONS
C9
C10
NOTIFY OF LATITUDE/ LONGITUDE/ALTITUDE
TRANSMIT MAIL TO THE BOTH
NOTIFY OF LATITUDE/ LONGITUDE/ALTITUDE
C12
C11
TRANSMIT OWN POSITION
RETRIEVE DESIGNATED INFORMATION BUBBLE, MOVE
C15
GRASP A TERGET POSITION WHILE THE TERGET RTRIEVES
AIM PORTABLE TERMINAL TOWARD THE INFORMATION BUBBLE AND RETRIEVE
C13
C16
RECOGNIZE THE TARGET
C17
C14
REQUEST FOR MAIL
PROXY MAIL
C18
RECOGNIZE WITH EACH OTHER

FIG. 30

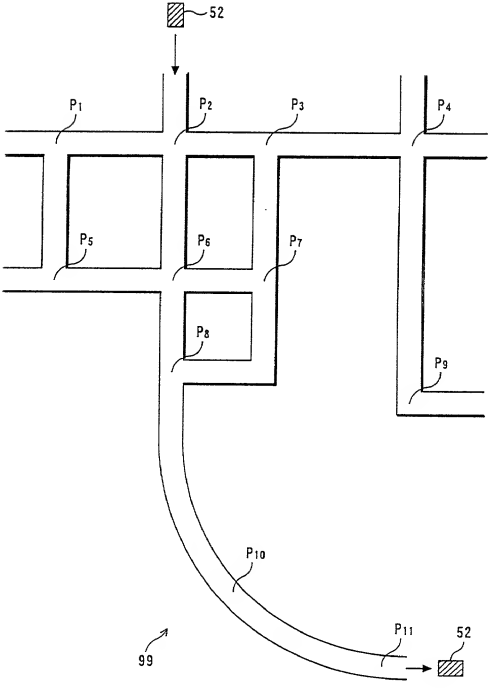
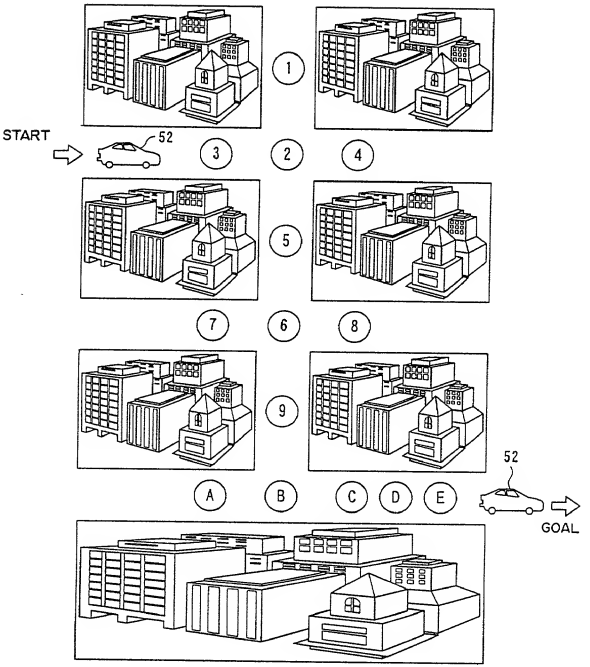
FIG. 31